

# Notice of Allowability

Application No.

10/830,035

Examiner

Mahmoud Dahimene

Applicant(s)

BOUKHERROUB ET AL.

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/11/2007.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

NADINE NORTON  
SUPERVISOR, PATENT EXAMINER

***Allowable Subject Matter***

1. Claim 1-25 are allowed.
2. The following is an examiner's statement of reasons for allowance:
3. Regarding claim 1, the cited prior art of record fails to disclose or suggest a method of stabilizing porous silicon (PSi) to protect the porous silicon from luminescence fatigue comprising the steps of "subjecting said porous silicon structure to non-catalytic thermally induced hydrosilation with reactants selected from the group consisting of:  $RCH=X$ ,  $R^1R^2C=X$ , where  $X=O, NR', S$ ) and  $RNu$ , where  $Nu=OH, NHR', SH, COOH$ , to substitute said hydrogen atoms with a protective organic layer", in combination with the rest of the steps/limitations of claim 1. The closest prior art of record is that of Effenberger, however, Effenberger cites catalyzed reactions of alkenes and aldehyde or irradiation with light to induce the assembled layer formation. Effenberger is silent about non-catalytic thermally induced hydrosilation. Buriak teaches thermally induced hydrosilylation on porous silicon, however, Buriak discloses significant photoluminescence quenching due to thermal hydrosylation is observed (lines 22-23, column 1, page 1054).
4. Regarding claim 19, the cited prior art of record fails to disclose or suggest a method of stabilizing porous silicon (PSi) to protect the porous silicon from luminescence fatigue comprising the steps of "providing an aldehyde or thioaldehyde reactant capable of producing a protective organic layer on said structure; subjecting said porous silicon film to non-catalytic thermally induced hydrosilation with said reactant to substitute said hydrogen atoms in said hydrogen-terminated surface with a

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protective organic layer.", in combination with the rest of the steps/limitations of claim

19. The closest prior art of record is that of Effenberger, however, Effenberger cites catalized reactions of alkenes and aldehyde or irradiation with light to induce the assembled layer formation. Effenberger is silent about non-catalytic thermally induced hydrosilation. Buriak teaches thermally induced hydrosilylation on porous silicon, however, Buriak discloses significant photoluminescence quenching due to thermal hydrosilation is observed (lines 22-23, column 1, page 1054).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Dahimene whose telephone number is (571) 272-2410. The examiner can normally be reached on week days from 8:00 AM. to 5:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MD.

NADINE NORTON  
SUPERVISORY PATENT EXAMINER

